

Remarks

Reconsideration and withdrawal of the objections and rejections set forth in the above-mentioned Official Action in view of the foregoing amendments and the following remarks are respectfully requested.

Claims 1-21 remain pending in the application, with Claim 1 being independent. Claims 15-21 have been withdrawn from consideration. Claims 1-21 have been amended herein.

Claims 15-21 were withdrawn from further consideration as being directed to a non-elected invention. However, Claim 15 has been amended to depend from Claim 1. Thus, Claim 1 is generic and it is respectfully requested that Claim 15, and Claims 16-21, which depend directly or indirectly therefrom, be rejoined and examined.

Applicants note with appreciation the indication that Claims 2-6 and 8-10 recite allowable subject matter. These claims were objected to for being dependent upon rejected base claims. However, these claims will not be rewritten in independent form at this time because their respective independent claims are believed to be allowable for the reasons discussed below.

The abstract and Claims 1-14 were objected to for minor informalities. Without conceding the propriety of these objections, Applicants have amended the Abstract in the manner suggested by the Examiner and have amended the claims as appropriate. Reconsideration and withdrawal of the objection to the abstract and claims are requested.

Claim 12 was rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter and under § 112, second paragraph, as allegedly being indefinite. Without conceding the propriety of these rejections, Applicants have reworded the language questioned by the Examiner. Reconsideration and withdrawal of the §§ 101 and 112, second paragraph, rejections are requested.

Claims 1, 7 and 11 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,398,351 (Blum et al.). Claim 12 was rejected under 35 U.S.C. § 103 as being unpatentable over Blum et al. in view of U.S. Patent No. 4,007,684 (Takano et al.). Claims 13 and 14 were rejected under § 103 as being unpatentable over Blum et al. in view of U.S. Patent No. 3,891,121 (Stoneburner). These rejections are respectfully traversed.

As is recited in independent Claim 1, the present invention relates to an ink-jet printing apparatus including a main tank storing ink, a sub-tank separable and connectable with the main tank through an ink supply passage, a printing head, printing means, ink draining means and ink supply means. The printing head ejects ink supplied from the sub-tank. The printing means performs printing by ejecting ink from the printing head to a printing medium, while the sub-tank and the printing head are scanning across the printing medium. The sub-tank is separated from the main tank during the scanning. The ink draining means performs an ink draining process for draining at least a part of ink remaining in the sub-tank within a period after completion of printing at a preceding time and before starting printing at a next time. The ink supply means supplies ink from the main tank to the sub-tank through the ink supply passage within the period and after

completion of the ink draining process. The ink supply means supplies to the sub-tank the same type of ink as the ink drained by the ink draining means.

The present invention as recited in independent Claim 1 can be considered a “pit-in” ink supply system because, as claimed, the sub-tank is separated from the main tank during scanning. In the claimed arrangement, the apparatus drains at least a part of ink remaining in the sub-tank and supplies ink from the main tank to the sub-tank through an ink supply passage after completion of the ink draining process, with the supplied ink and drained ink being of the same type.

Blum et al. relates to a system for flushing ink residue from a system and is directed to a continuous ink jet printer, in which it is desired to perform a variety of printing jobs, each requiring a different ink. Blum et al. explains that it is desirable that the ink be easily changed, instead of dedicating a printer to each type of ink. For a system flush, a first type of ink is drained out of the system, the system is refilled with a flush fluid that is circulated, the flush fluid is drained and the system is refilled with a different type of ink. As described in the paragraph beginning at line 26 of col. 3, a yellow ink may be replaced with a black ink and vice versa.

Accordingly, Blum et al. fails to disclose or suggest that the ink supply means supplies the same type of ink as the ink drained by the ink draining means, as is recited in independent Claim 1. Further, Applicants submit that the continuous ink jet printer of Blum et al. does not utilize a pit-in ink supply system. Therefore, it cannot be said that Blum et al. describes a sub-tank being separated from a main tank during scanning, as is also recited in independent Claim 1.

Thus, Blum et al. fails to disclose or suggest important features of the present invention recited in independent Claim 1.

Takano et al. was cited by the Examiner for teaching the use of an ink liquid warmer in an ink supply system. Stoneburner was cited for allegedly teaching shutdown of a drop generator at an optimum time to perform draining processes. However, neither of these citations is believed to remedy the deficiencies of Blum et al. noted above with respect to independent Claim 1.

Thus, independent Claim 1 is patentable over the citations of record. Reconsideration and withdrawal of the §§ 102 and 103 rejections are respectfully requested.

For the foregoing reasons, Applicants respectfully submit that the present invention is patentably defined by independent Claim 1. Dependent Claims 2-21 are also allowable, in their own right, for defining features of the present invention in addition to those recited in independent Claim 1. Individual consideration of the dependent claims is requested.

Applicants submit that the present application is in condition for allowance. Favorable reconsideration, withdrawal of the objections and rejections set forth in the above-noted Office Action, and an early Notice of Allowability are requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Mark A. Williamson", written over a horizontal line.

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